

Massachusetts Division of
Health Care Finance and Policy

ANALYSIS IN BRIEF

Massachusetts Health Expenditures Accelerating

A rapid increase in health care expenditures in recent years has brought great financial stress to individuals, employers, and government. This trend is especially significant in Massachusetts, which consistently has the highest health expenditures per resident of any state in the nation.

Every five years the federal agency, Centers for Medicare and Medicaid Services (CMS), publishes the State Health Expenditure Accounts (SHEA), a state by state accounting of health care expenditures.¹ In September 2000, the Division of Health Care Finance and Policy (DHCFP) published its first issue of *Analysis in Brief* entitled "Massachusetts Health Care Expenditures," which summarized and analyzed CMS's 1998 SHEA data for Massachusetts.² This 10th edition of *Analysis in Brief* updates the 2000 study using CMS's 2004 SHEA data and reports on the acceleration of health expenditures in Massachusetts from 2000 to 2004.³

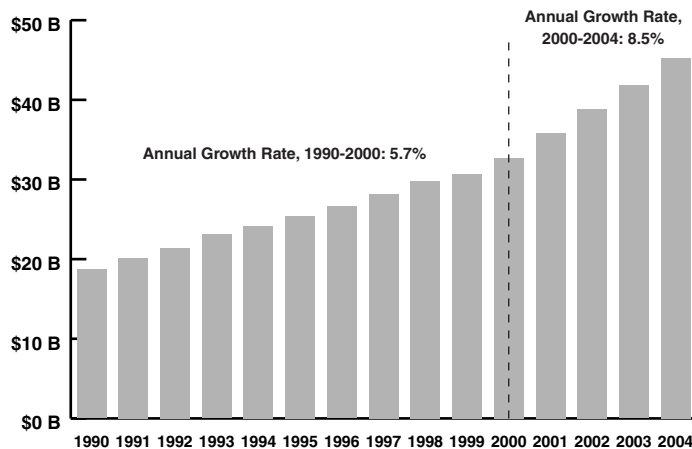
Massachusetts Outpaces the US

The annual rate of increase in Massachusetts health expenditures accelerated from 2000 to 2004 compared to the previous decade, with an average annual growth rate of 5.7% compared to 8.5% annually during the 1990s. In 2004, Massachusetts health expenditures reached a total of \$45.3 billion, a 40% increase over the \$32.7 billion spent in 2000. Figure 1 shows the clear steepening in the rate of increase after the year 2000.

This acceleration is also reflected in the measure of Massachusetts health expenditures per capita, which reached \$7,075 in 2004, 33% higher than the national average of \$5,313 per capita (see Figure 2 on page 2). In 2000, Massachusetts health expenditures per capita were 27% higher than the national average, but between 2000 and 2004 expenditures per capita increased 38% in Massachusetts, compared to 32% nationwide. Since 2000, the difference in health expenditures per capita between Massachusetts and the nation has widened in both total dollars spent and the rate of increase.

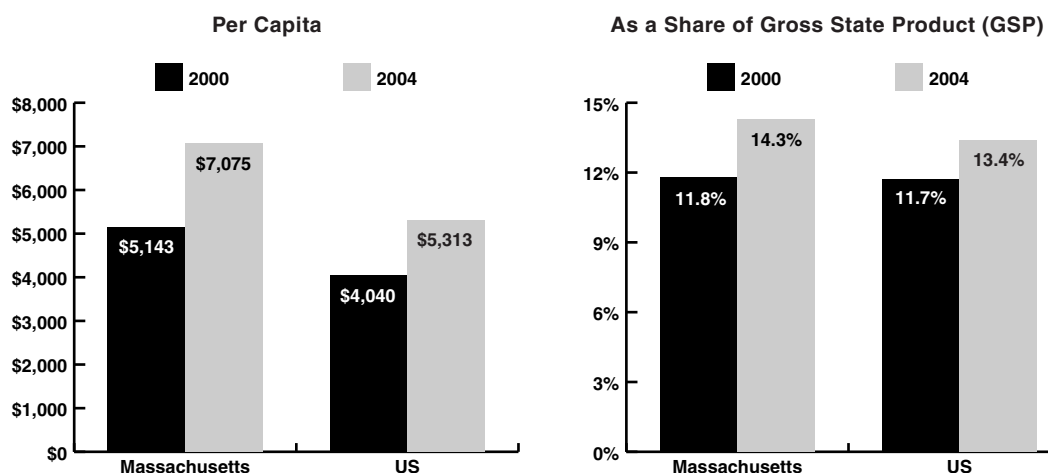
Health expenditures as a share of Gross State Product (GSP) in Massachusetts were almost identical to the rest of the nation in 2000: 11.8% versus 11.7%. However, the health care portion of the GSP rose to 14.3% in 2004, nearly 1%

Figure 1: Massachusetts Health Expenditures, 1990-2004



Between 2000 and 2004 the rate of increase in Massachusetts health expenditures accelerated to \$3.2 billion annually from \$1.4 billion annually during the 1990s.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary, National Health Statistics Group, 2006

Figure 2: Massachusetts and US Health Expenditures, 2000 and 2004

Between 2000 and 2004 Massachusetts health expenditures increased 38% compared to 32% nationally. As a share of GSP, Massachusetts health expenditures were nearly identical to the national average in 2000, but in 2004 they rose to 14.3%, nearly 1% greater than the US average of 13.4%.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary, National Health Statistics Group, 2006

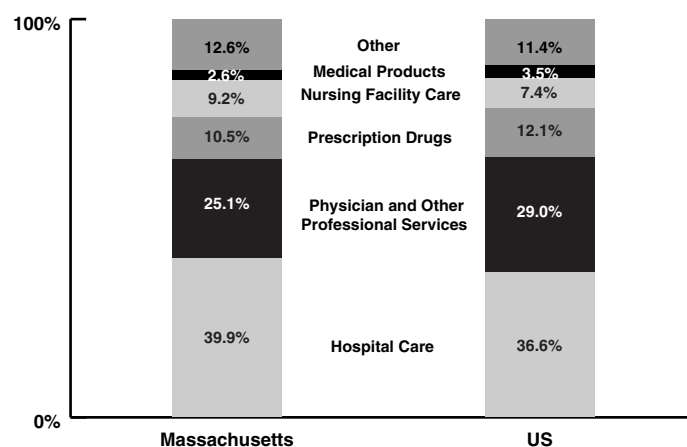
higher than the national average of 13.4% (see Figure 2).

Hospital Expenditures Driving Growth

In 2004, hospital expenditures accounted for 39.9% of Massachusetts health expenditures, 3.3% more than their 36.6% share of US health

expenditures. Massachusetts also spent 1.8% more than the US on nursing facilities. In contrast, Massachusetts spent a smaller percentage on physician and other professional services than the nation as a whole: 25.1% versus 29.0% (3.9% less in Massachusetts). Massachusetts also spent a smaller percentage on prescription drug and medical products (2.5% less combined) than the rest of the nation (see Figure 3). These numbers suggest that institutional care absorbs more dollars and ambulatory care and prescription drugs absorb fewer dollars in Massachusetts than nationwide.

Representing nearly 40% of total health expenditures, hospital expenditures in 2004 accounted for half (\$880) of the difference in health expenditures per capita between Massachusetts and the US (see Figure 4). Other types of health expenditures played a relatively minor role in the difference: nursing homes, 15% (\$262); physical and other professional care,

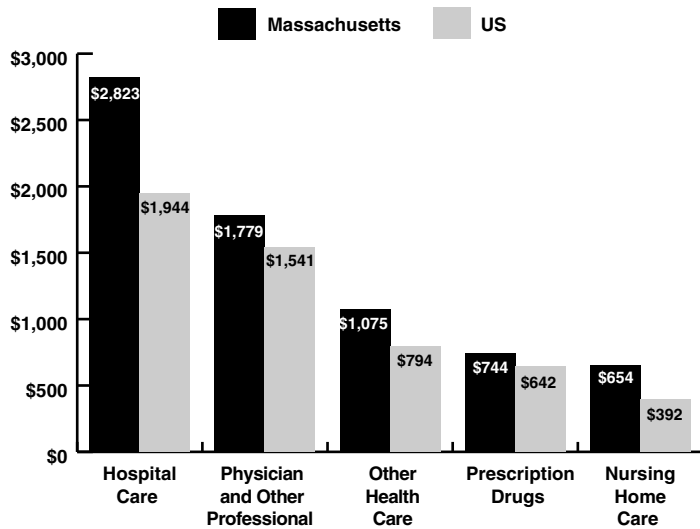
Figure 3: Distribution of Health Care Expenditures in Massachusetts and the US, 2004

In 2004 Massachusetts spent proportionally more of its health care dollars than the US on hospital care and nursing facility care, but spent less than the US on physician care, prescription drugs, and medical products.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary, National Health Statistics Group, 2006

Note: "Other" includes Dental Services, Home Health Care, and Other Personal Health Care.

Figure 4: Health Expenditures per Capita by Type in Massachusetts and the US, 2004



Half (\$880) of the difference (\$1,762) in per capita health expenditures between Massachusetts and the US was due to higher per capita hospital expenditures in Massachusetts.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary, National Health Statistics Group, 2006

Note: "Other Health Care" includes Dental Services, Home Health Care, Medical Products, and Other Personal Health Care.

14% (\$238); home health care (not shown), 7% (\$125); and prescription drugs, 6% (\$102). Massachusetts had higher expenditures per capita than the national average on nearly all types of health care services and products.

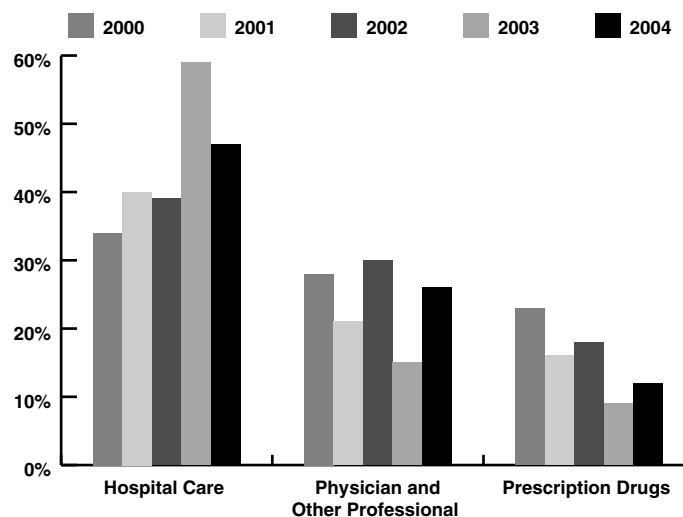
This trend coincided with improved profitability for Massachusetts hospitals. Based on the latest DHCFP annual acute hospital financial report, the median total profit margin of acute hospitals increased steadily from 0.3% in FY02 to 1.9% in FY04. The average operating profit margin also increased from 0.1% to 0.9% during the same period.⁴ However, not all hospitals fared equally well; teaching hospitals generally achieved better financial results than community hospitals as illustrated by a lower percentage of teaching

hospitals having experienced overall losses compared to non-teaching hospitals.

The growing impact of hospital expenditures is also shown in their share of the annual increase in total health expenditures. Hospital expenditures accounted for 34% of the annual increase in total health expenditures in 2000, but 47% by 2004 (see Figure 5) having peaked at 59% in 2003. Physician and other professional expenditures fluctuated between 26% and 28% of the annual increase in total health expenditures during this period. Surprisingly, the relative impact of prescription drug expenditures decreased substantially from 23% in 2000 to 12% in 2004. Comparing 2000 to 2004, the rise

in hospital expenditures (13%) was precisely equivalent to the combined drop in prescription drug expenditures (11%) and physician

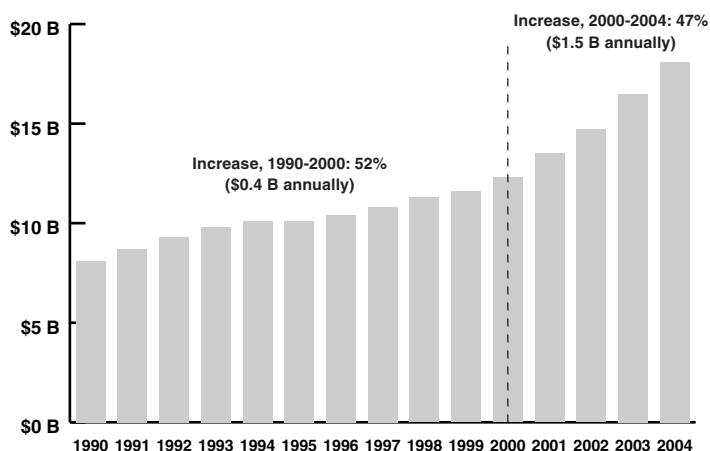
Figure 5: Distribution of Annual Increases in Massachusetts Health Expenditures, 2000-2004



Between 2000 and 2004 the rate of increase in Massachusetts hospital expenditures accelerated.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary, National Health Statistics Group, 2006

Figure 6: Massachusetts Hospital Expenditures, 1990-2004



Between 2000 and 2004 the rate of increase in Massachusetts hospital expenditures accelerated.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary, National Health Statistics Group, 2006

and other professional service expenditures (2%).

The relative effect of hospital expenditures in driving the growth of Massachusetts health expenditures has been increasing since 2000. During the 1990s, Massachusetts hospital expenditures increased by 52% or \$0.4 billion annually. However, in just the four years

more than the national average in 2003: 631 days versus 559 days (see Figure 7). The greater number of hospital days used in Massachusetts stemmed from more hospital admissions (10 more discharges per 1,000 population or 8.3% more than the US) and a slightly longer average hospital stay (0.2 more days per admission or 4.3% longer than the national rate).

between 2000 and 2004 hospital expenditures increased by 47% or \$1.5 billion annually, more than triple the annual average increase during the 1990s (see Figure 6).

Major Components of Hospital Expenditures

Given the significance of hospital expenditures in driving the increases in health expenditures since 2000, DHCFP explored the major components of these expenditures.

Volume and Length of Stay

Massachusetts residents used 72 more hospital days per 1,000 population or 12.9%

Figure 7: Massachusetts Hospital Expenditures: Volume versus Intensive Resource Use and Higher Prices, 2003 and 2004

	Hospital Utilization (2003)			Hospital Expense per Capita (2004)	Volume Days per Capita	Intensive Resource Use and Higher Prices	
	Days per 1,000	Discharges per 1,000	LOS			Expense per Day	Hospital Expense per Capita in US Price
Massachusetts	631	130	4.9	\$2,823	0.63	\$4,474	\$2,194
United States	559	120	4.7	\$1,944	0.56	\$3,478	\$1,944
Difference between Massachusetts and US	72	10	0.2	\$880	0.07	\$996	\$250
Percent Difference between Massachusetts and US	12.9%	8.3%	4.3%	45.2%	12.9%	28.6%	12.9%

Of the \$880 difference in per capita hospital expenditures between Massachusetts and the US, Intensive resource and higher prices accounted for \$630 (72%) of the difference and volume effect accounted for \$250 (28%) of the difference.

Note: Hospital utilization data are from 2003; hospital expenditure data are from 2004.

Cost of Hospital Stay

In 2004, Massachusetts hospital expenditures per capita (\$2,823) were \$880 higher than the national average (\$1,944). For those who were hospitalized in Massachusetts, hospital expenditures per day (\$4,474) were nearly \$1,000 greater than the US average (\$3,478) (see Figure 7).

Using national data, DHCFP examined Massachusetts hospital expenditures in order to understand whether greater volume and length of stay alone were responsible for our higher hospital expenditures per capita compared to the US. DHCFP multiplied the US hospital expenditure per day (\$3,478) by the number of Massachusetts hospital days per capita (0.63) to isolate the effect of pricing and resource use from volume and length of stay.

The difference between this adjusted amount (\$2,194) and the US average (\$1,944) narrowed the unadjusted per capita difference of \$880 to an adjusted difference of \$250, which represents the impact of volume. The remaining \$630 (the difference between \$880 and \$250) represents the effect of intensive resource use and higher prices at Massachusetts hospitals. Compared to other Americans, residents of Massachusetts rely significantly more on teaching hospitals for

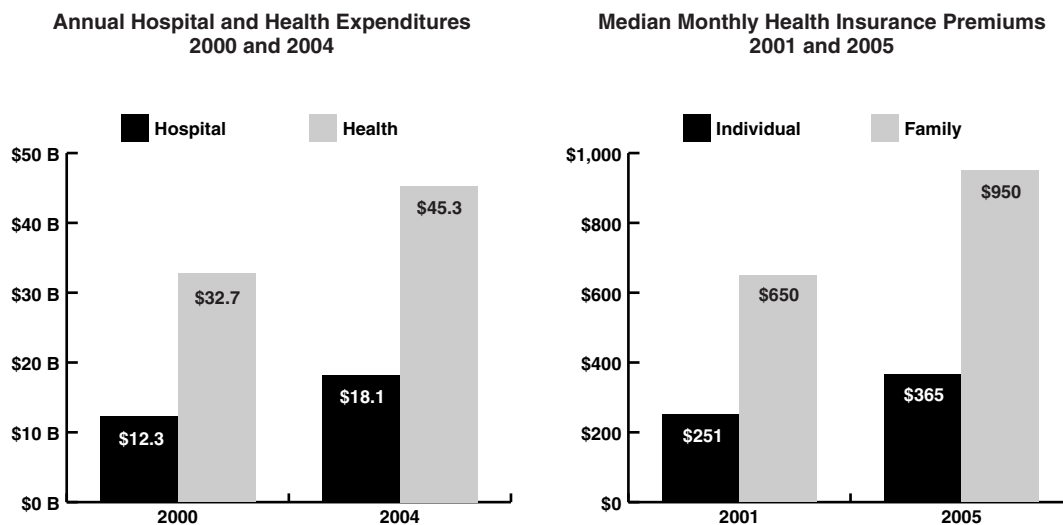
their care and these hospitals have higher costs than other hospitals. These higher costs stem from their tendency to use more diagnostic services, provide more intensive treatments, charge higher prices per service, and treat patients whose conditions are more severe than community hospitals.

Health Insurance Premiums and Massachusetts Health Care Reform

The accelerating increase in total health expenditures inevitably drives an increase in health insurance premiums. In fact, recent DHCFP surveys of health insurance premiums in the employer-sponsored health insurance market found that the median monthly insurance premiums for individual plans increased by 45%, and family plans, 46% from 2001 to 2005 (see Figure 8).⁵

While recent health care reform in Massachusetts will extend state-subsidized health insurance coverage to low-income individuals and require that all citizens have health insurance coverage by 2007, its continued success is dependant on the availability of affordable insurance premiums. Since the range of covered services and the trend in health care utilization

Figure 8: Increases in Massachusetts Health Expenditures and Insurance Premiums



Steep increases in hospital (47%) and health (40%) expenditures in Massachusetts between 2000 and 2004 are reflected in the sharp increase of health insurance premiums (45% for individuals and 46% for family plans) between 2001 and 2005.

Analysis in Brief

Analysis in Brief reflects the goal of the Division of Health Care Finance and Policy to monitor changes in the health care marketplace through useful and timely analyses of health care data. Several times a year, this publication reports on our analyses of health care costs, quality and access.



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Division of Health Care Finance and Policy

and pricing determine premium costs, the current trend in accelerating health expenditures

is something policy makers will want to monitor.

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1. In Centers for Medicare and Medicaid Services' SHEA reports, only Personal Health Care Expenditures (PHCE) are calculated. PHCE include expenditures on therapeutic goods and services rendered to treat or prevent a specific disease or condition in a person, but omit expenditures on medical research, construction, and insurance administration. To avoid confusion, all health expenditures mentioned in this publication are PHCE.
 2. Massachusetts Division of Health Care Finance and Policy, "Massachusetts Health Care Expenditures," *Analysis In Brief*, Number 1, September 2000.
 3. Center for Medicare and Medicaid Services, *Massachusetts Personal Health Care Expenditures (PHCE): All Payers 1980-2004*.
 4. Massachusetts Division of Health Care Finance and Policy, *FY05 Annual Acute Hospital Financial Report*, July 2006.
 5. Massachusetts Division of Health care Finance and Policy, "Health Insurance Survey of Massachusetts Employers: Comprehensive Results" (includes trended results from 2001, 2003, 2005), December 2005.